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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,720	07/28/2003	Eui Yoon Chung	11037-135-999	6725
24341	7590	11/30/2004	EXAMINER	
MORGAN, LEWIS & BOCKIUS, LLP. 2 PALO ALTO SQUARE 3000 EL CAMINO REAL PALO ALTO, CA 94306			LAI, ANNE VIET NGA	
			ART UNIT	PAPER NUMBER
			2636	

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/628,720	<b>Applicant(s)</b> CHUNG, EUI YOON	
	<b>Examiner</b> Anne V. Lai	<b>Art Unit</b> 2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4 and 6-13 is/are rejected.
- 7) ☐ Claim(s) 3 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4, 6-12 are rejected under 35 U.S.C. 102(b) as being anticipated by **Suzuki et al** [5,026,153].

Regarding claims 1 and 2, **Suzuki et al** (figs. 3, 4, 7, 10, 13, 15 and 16; col. 1, lines 13-17; col. 15, line 22 through col. 16, line 37; claims 1 and 7) disclose a method for maintaining a distance between vehicles utilizing a video camera (photoelectric transducer or CCD combined with radar scanning) mounted on a vehicle, comprising:

detecting an image of area ahead of the vehicle;

determining whether a preceding vehicle exists;

controlling the vehicle speed based on a calculated distance between the vehicle and the preceding vehicle, if the preceding vehicle exists;

adjusting a camera angle from a predetermined upper angle to a predetermined lower angle (if the preceding vehicle is detected, the tracking control is on, the light receiving apparatus is rotated from a predetermined reference position (angle theta) to a position where the light source from the preceding vehicle is collected at a center of the light sensor element (rotate an angle theta 1); fig. 16; col. 15, lines 30-41);

Regarding claim 4, **Suzuki et al** (figs. 3, 4, 7, 10, 13, 15 and 16; claim 11) further disclose if no preceding vehicle is detected, the tracking control is interrupted, and the camera angle is returned to the predetermined upper angle from the predetermined lower angle (the light receiving apparatus is rotated and returned to its reference position; col. 16, lines 3-8).

Regarding claim 6, **Suzuki et al** (figs. 3, 4, 7, 10, 13, 15 and 16; claims 1 and 7) disclose an apparatus for controlling distance between vehicles, comprising:

- a stereo camera (a pair of left and right photoelectric transducers) detecting an image of an area ahead of a vehicle;

- a camera angle adjuster (11, fig. 16) detecting and adjusting a camera angle;
- and

- a controller (computer 25, fig. 16) controlling a vehicle speed and the camera angle based on the detected image of the area ahead of the vehicle and the detected camera angle (fig.16; col. 15, lines 22-67).

Regarding claim 7, **Suzuki et al** disclose the controller 25 controlling the vehicle speed based on the detected image of the area ahead of the vehicle and controlling the camera angle based on the detected image and the detected camera angle (fig.16; col. 15, lines 22-67).

Regarding claim 8, **Suzuki et al** disclose the controlling of the vehicle speed comprises: calculating a distance between vehicles based on the image of the area ahead of the vehicle; and transmitting a speed control signal based on the calculated distance to control a throttle valve or a brake (col. 15, lines 22-67).

Regarding claims 9 and 11, **Suzuki et al** disclose controlling the camera angle to be a predetermined lower angle if the preceding vehicle exists (light receiving apparatus rotates from a reference position to a position where the light from the preceding vehicle is collected at the center of the light sensor; col. 15, lines 22-55);

Regarding claims 10 and 12, **Suzuki et al** disclose controlling the camera angle to be a predetermined upper angle if the preceding vehicle does not exist (the light receiving apparatus returns to the reference position; col. 16, lines 3-16).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Suzuki et al** in view of **Kinoshita et al** [US. 6,185,499].

Regarding claim 13, **Suzuki et al** disclose the stereo camera comprises a pair of left and right lenses and a CCD (figs. 7-9; col. 10 line 29 through col. 11, line 57; claim 7).

**Kinoshita et al** teach an apparatus for controlling distance between vehicles utilizing a stereo camera including a pair of CCD. It would have been obvious to one having ordinary skill in the art at the time of the invention was made the use of one or two CCD

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in a stereo camera is merely a designer choice based on supply, cost and user preference.

***Allowable Subject Matter***

5. Claims 3 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Cheong** discloses a method and an apparatus for detecting vehicle distance.

[US. 6,795,014]

**Hoch** discloses a device for passive friend-or-foe discrimination. [US. 6,249,589]

**Kakinami et al** disclose an apparatus for detecting an object located ahead of a vehicle using plural cameras with different fields of view. [US. 5,892,855]

**Beuler et al** disclose a CMOS camera with integral laser ranging and velocity measurement. [US. 2004/0118624]

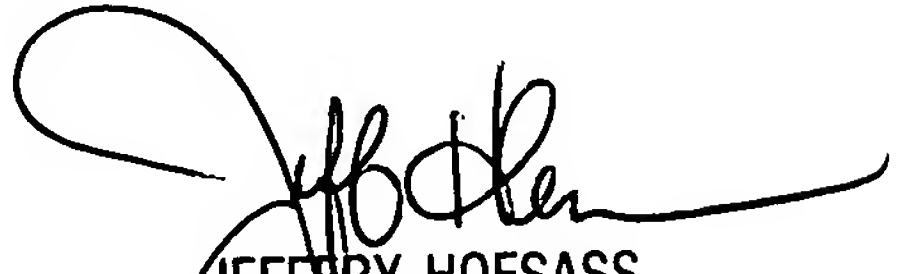
**Tsuchiya et al** disclose a running guide apparatus for vehicle capable of keeping safety at passing through narrow path. [US. RE37,610]

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne V. Lai whose telephone number is 571-272-2974. The examiner can normally be reached on 8:00 am to 5:30 pm, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hofsass Jeffery can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
A. V. Lai  
November 26, 2004

  
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